

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 March 2005 (10.03.2005)

PCT

(10) International Publication Number
WO 2005/022581 A3

(51) International Patent Classification⁷: **H01J 37/09**,
37/05, 37/26

[GB/GB]; 6 Hawthorn Drive, Burnage, Manchester M19
1GX (GB). **KRUIT, Pieter** [NL/NL]; Koornmarkt 49,
NL-2611 EB Delft (NL).

(21) International Application Number:
PCT/GB2004/003637

(74) Agent: **KNOTT, Stephen, Gilbert**; Mathisen, Macara &
Co., The Coach House, 6-8 Swakeleys Road, Ickenham,
Uxbridge UB10 8BZ (GB).

(22) International Filing Date: 25 August 2004 (25.08.2004)

(25) Filing Language: English

(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(26) Publication Language: English

(30) Priority Data:
0320187.8 28 August 2003 (28.08.2003) GB

(71) Applicant (*for all designated States except US*): **SHI-
MADZU RESEARCH LABORATORY (EUROPE)**
LIMITED [GB/GB]; Wharfside, Trafford Wharf Road,
Manchester M17 1GP (GB).

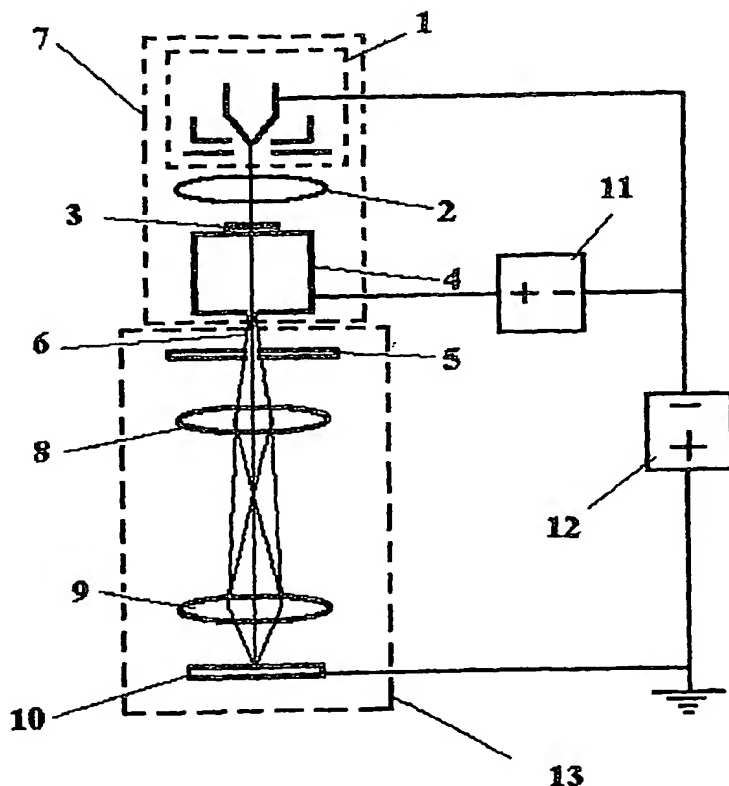
(72) Inventors; and

(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,

(75) Inventors/Applicants (*for US only*): **CUBRIC, Dane**

[Continued on next page]

(54) Title: PARTICLE OPTICAL APPARATUS



(57) Abstract: A particle optical apparatus including an aperture plate for shaping a particle beam before the particle beam enters a monochromator filter assembly. The aperture plate has at least one aperture and is adjustable with respect to the monochromator filter assembly, in normal operating conditions, so that the size of the aperture used to shape the particle beam can be varied, and therefore the beam current entering the filter assembly can be varied.



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
2 June 2005

Published:

— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.